Historic, archived document

Do not assume content reflects current scientific knowledge, policies, or practices.

SHOUT
SHARE
IT

LIBRARY
U.S.D.A.
HOME ECONOMICS

UNITED STATES DEPARTMENT OF AGRICULTURE

DEPARTMENT BULLETIN No. 1214

Washington, D. C. ▼ January 1924

FAMILY LIVING IN FARM HOMES

An Economic Study of 402 Farm Families in Livingston County, N. Y.

By

E. L. KIRKPATRICK, Assistant Agricultural Economist, Division of Farm Population and Rural Life, Bureau of Agricultural Economics; HELEN W. ATWATER, Specialist in Home Economics, and ILENA M. BAILEY, Assistant in Home Management Studies, Bureau of Home Economics

In cooperation with the New York State College of Agriculture

CONTENTS

	Page
General plan	4
Area studied	5
Composition of families and households	5
Classification of family goods	6
Expenditures and goods consumed	8
Cost-consumption unit and household size-index	19
Expenditures per cost-consumption unit and factors indicative of the standard of living	25
Summary	33

WASHINGTON
GOVERNMENT PRINTING OFFICE
1924

UNITED STATES DEPARTMENT OF AGRICULTURE

In cooperation with the
New York State College of Agriculture

DEPARTMENT BULLETIN No. 1214

Washington, D. C. ▼ January 1924

FAMILY LIVING IN FARM HOMES.

An Economic Study of 402 Farm Families in Livingston County, N. Y.

By E. L. KIRKPATRICK, *Assistant Agricultural Economist, Division of Farm Population and Rural Life, Bureau of Agricultural Economics;* HELEN W. ATWATER, *Specialist in Home Economics,* and ILENA M. BAILEY, *Assistant in Home Management Studies, Bureau of Home Economics.*

CONTENTS.

	Page.		Page.
General plan	4	Cost-consumption unit and household size index	19
Area studied	5	Expenditures per cost-consumption unit and factors indicative of the standard of living	25
Composition of families and households	5	Summary	33
Classification of family goods	6		
Expenditures and goods consumed	8		

The farmer's standard of living is a topic which comes up in many discussions. In attempting to answer the question, Does the farmer get adequate returns for his products? one runs at once into such other questions as, What does his living cost him? How does the satisfaction it gives compare with that obtained by workers in other occupations? and, On what does such satisfaction depend?

In considering the drift of population from the farms to the cities, it is necessary to know how farm life compares with town life in comfort, healthfulness, enjoyment, and opportunity. Such knowledge is also needed in the development of extension programs, if they are to touch on other phases of farm life than those of actual crop and stock production.

For instance, there must be understanding of what can be considered reasonable in such matters as the food and clothing of the family, the comfort and attractiveness of the house and grounds, and the opportunities for personal improvement, social enjoyment, and participation in community interests; also, of how conditions in a given region fall short of this attainable standard.

It is generally recognized that the information at present available regarding standards of living is not sufficient for a satisfactory answer to such questions. To begin with, the expression "standard of living" does not suggest the same idea to all who use it. Many think of it rather vaguely as a goal or an ideal toward which to direct

65834°—24—Bull. 1214——1

efforts at material, personal, or social improvement, paying little or no attention to the specific provisions for food, housing, and the other economic goods on which health and satisfaction depend.

Others think it should represent the sum of the economic goods, each accurately indicated by quantity or value, required to meet normal physiological and social requirements, though as yet no means has been found of measuring most of these requirements. Still others in describing the standard of living would add to economic goods actually consumed for food, clothing, and shelter, such less tangible needs as maintenance of health, facilities for education, recreation, and social relationships. It is in this last sense that the term has ordinarily been used by the economists on whose studies is based such information as is now available regarding standards of living.

In most of these economic studies the standard of living has been measured in terms of cost. Statistics have been gathered regarding the money value of the food, fuel, house furnishings, and clothing provided for a given family; the cost of renting or owning a house and its operation and upkeep; the money spent for health, education, religious activities, recreation, and for various other personal, family, and social needs; and the amount laid by for future use. In other words, these studies of the standard of living have been largely studies of the cost of living and show little as to the degree of welfare and satisfaction obtained in return for the money spent. They have furnished much valuable information for students and for the practical guidance of legislators, wage boards, and social workers; but those who use it most are the first to admit that it is incomplete and often misleading.

For example, it is obviously incorrect to assume that the same proportion of the total family expenditure is to be attributed to each individual in a family regardless of age, sex, and occupation, but so far no satisfactory basis has been found for comparing families of different make-up. Another source of error is that the cost of living as measured by expenditures in money shows nothing of the contribution made by the unpaid labor of members of the family. If this labor were paid for at current rates, it would add appreciably to the family expenditures. Closely related to this question of unpaid labor is the managerial ability of the home maker. This can hardly be indicated in dollars and cents; yet purchasing ability, for example, may make a noteworthy difference in the quantity and quality of food or clothing obtained for a given sum.

Cost-of-living studies give a somewhat more definite picture of living conditions when expenditures are grouped under such heads as food, clothing, rent, operating expenses, and those miscellaneous but significant items often lumped together as advancement, or higher life. So many records of family living have been analyzed in this way that there are widely accepted generalizations as to the proportion of the total expenditures devoted to the different items.

The earlier work of this kind was based chiefly on records of families of European industrial workers, many of whom had such low incomes that nearly the entire amount was required to meet the physical necessities of food, clothing, and shelter. Comparison of such studies and those made with groups on somewhat higher economic levels have led to the generalization that as the income increases the proportion spent for advancement increases and that

the proportion spent for advancement may be taken as a criterion of the standard of living. This belief is more or less common even in this country, though it is based in part on conditions that have never been recognized as typical here, and though economists are coming more and more to the opinion that in order to judge the character of living conditions they must know not only what the living costs, but also the nature of the goods bought. It is impossible, for example, to judge how well a family is nourished simply by knowing that it spends so many dollars a year for food, because price does not necessarily indicate nutritive value. Some idea of the kinds and quantities of food materials used is needed before one can tell whether this family is obtaining the nutrients and energy now recognized as necessary for health and well-being.

Such reliable information as there is regarding the standard of living in the United States has been gathered almost exclusively among town dwellers and the families of industrial workers. These urban findings can not be applied to farm conditions. The economics of the farm family usually differs from that of the city family in an important respect; namely, that a considerable proportion of the farm family's living is supplied by the farm whereas the city family pays for everything out of its money income.

By estimating the market value of food materials and fuel supplied by the farm, figures somewhat more comparable with those of the city household can be obtained, but there still remains the fact that the farmhouse is an integral part of the farm property and that its rental value is difficult to estimate separately. Moreover, the whole scheme of farm life and interests is so different from that of the city, and the major satisfactions of each manner of life often come from such different sources that it is unfair to compare expenditures for urban and rural living, item by item.

A farm family's accounts, for example, might show less money spent for travel or clothing than those of a city family; but if the difference were due to the fact that the farm had acquired purebred livestock in which all the family took exceptional pride and that they already dressed as well as their friends and neighbors, it would not mean that they found life less satisfactory on the whole or that they were less valuable members of society. In other words, both the cost and the standard of living among farm families are probably different from what they are among city families, but no one can say to what extent or in what respects they differ until more accurate information has been gathered.

The present study was undertaken with such considerations in mind. One purpose was to obtain information regarding the cost and other conditions of living actually prevailing among farm families in the area studied. It is realized that many more areas must be studied before safe deductions can be made as to conditions among farm families in general, and this investigation is therefore regarded as a first contribution to what it is hoped will prove a considerable series of such studies made in many parts of the country. Consequently, another purpose was to develop a method of procedure by means of which directly comparable results can be obtained by different investigators in different regions.

It is hoped that the information gained can be used to test the theory that expenditures for advancement are an index to the

standard of living and possibly also to discover whether other expenditures for special purposes furnish such an index. Another hope is that, by taking records of the quantity as well as the cost of the goods consumed, something may be learned of the quality of the living. An attempt has also been made to devise some means of reducing families of different make-up to a common basis on which their expenditures for various needs may be justly compared—something perhaps similar to the per-man-per-day basis familiar in dietary studies (p. 20).

GENERAL PLAN.

The study here reported was carried on cooperatively by the United States Department of Agriculture and the New York State College of Agriculture at Cornell University.[1] The Department of Agriculture was represented by the Division of Farm Population and Rural Life, of the Bureau of Agricultural Economics, and by the former Office of Home Economics; the New York State College of Agriculture, by the Department of Rural Social Organization.

The schedule was planned to show the following items: Age, sex, and occupation of the members of the family and the household; quantities and value of food, fuel, and other materials furnished during the preceding 12 months by the farm; cost and quantity of materials purchased during the preceding 12 months for food, fuel, household equipment, and supplies, and clothing for the various members of the family; expenditures for household labor, education, recreation, travel, social and religious contacts, and minor personal and miscellaneous needs. The schedule also included space for data on the nativity and education of the operator and home maker in each family; on the general character of the house, including its surroundings, equipment, and furnishing; on the unpaid labor given to home activities by various members of the household; and on the relations of the family to community interests. It was not expected that all these items would prove of statistical value, but in this somewhat preliminary study it seemed safer to include too much than too little. Data regarding the farm business were not provided for on the schedule because these had already been collected (p. 5).

Although only a minority of the farmers kept farm accounts, and an even smaller number of the housekeepers kept household accounts, they were nearly all able to give approximate estimates readily, and it is believed that the figures secured are sufficiently accurate for the present purpose. In talking with the home maker the investigator went over the list of expenditures item by item, asking for the average price of each per piece, dozen, pound, or bushel, as the case might be. The materials furnished by the farm, which included meat, dairy products, flour, meal, potatoes, and other vegetables, fruits, and fuel, were valued at the price that would have been received had they been sold. Prices given by the home makers were checked up by those current in the stores in which the families did most of their trading. The data obtained in this way represent 402 families and cover the year ending September 1, 1921.

---

[1] Acknowledgment is due to the farm families of Livingston County who generously gave their time in supplying data, and also to those who assisted in the field work: Mrs. Melissa Farrell Snyder, Miss Eva M. Harker, and Mrs. Grace M. Kirkpatrick.

Data from this study have also been used in Cornell University Agricultural Experiment Station Bul. 423: The Standard of Life in a Typical Section of Diversified Farming, by E. L. Kirkpatrick, 1923.

AREA STUDIED.

The selection of area and families for such a study is influenced by various considerations, perhaps chief among them being the economic level that is to be represented. For a preliminary inquiry into the standard of living in farm homes, an area in which something like average farming conditions prevail and a level neither exceptionally high nor exceptionally low is unquestionably best.

Since it is as unfair to paint an economic picture a shade too dark as a shade too light, it was felt wise to choose a region where farming is generally recognized as moderately profitable. A study[2] of 720 farms in Livingston County, N. Y., in 1919, by the Department of Agricultural Economics and Farm Management of the New York State College of Agriculture, showed this area to be of the general type desired, namely, a prosperous section where diversified farming is the main source of wealth. The fact that the records of the farms included in this earlier study could be consulted was a further argument in favor of the same area for the study of farm homes, and it was accordingly chosen.

The area lies in the northern part of Livingston County. It is crossed by several railway lines; its three or four main highways are of macadam or concrete and in good condition, and most of the other roads are graveled.

The 402 farms represented in this study are about 14 per cent of the total number in the county and have an average size of 131 acres, or 9.2 acres larger than that for the whole county. The main crops are hay, corn for grain and silage, wheat, oats, beans, cabbage, and sweet corn and peas for canning. Milk is the leading dairy product, the principal market being Rochester.

Of the 402 farmers represented in the study, 295 are owners and 107 tenants. Ninety-five of the owners were hiring additional land, 36 of these paying cash rent, 50 giving a share, and 9 paying both cash and share. Thirty-five of the 107 tenants paid cash rent, 52 gave a share, and 20 paid cash rent on a part and share rent on a part of the land farmed.

COMPOSITION OF FAMILIES AND HOUSEHOLDS.

To reduce the difficulties caused by the varying make-up of families in any analysis of the standard of living, the present study was limited to such families as had an adult male as farm operator and an adult female as home maker. The choice was further restricted to homes in which the same individuals were acting as operators and home makers as in 1919, when the study of the farm business was made. Four hundred and two such families were found among the 720 represented in the previous study.

In the present discussion, family is arbitrarily taken to mean a group of persons who are all supported from a common income, regardless of whether they are all related by blood or marriage. By household is meant all the persons sheltered and fed in one dwelling. Thus, a household might consist of more than one family, hired men, and boarders.

[2] Data as yet unpublished by the New York State College of Agriculture.

In most cases, operator and home maker were man and wife; but in 16 cases the husband was dead and a son was acting in his place, and in 5 the wife was dead and a daughter was acting in her place. There were also 6 cases in which a farm owned or rented jointly by several brothers and sisters was operated by one of the brothers, while a sister acted as home maker. The 402 families consisted of 1,609 persons (excluding children living away from home and not supported from the family purse) and the average family size was 4.

Twelve of the households included, in addition to the immediate family of the operator, another family related by marriage. In all, the households included 1,983 individuals of whom 240 were hired men and 9 hired girls. The average size of the households was 4.9.

Of the farm operators and home makers in the 402 families, 492, or 61.2 per cent of the total number, were born in Livingston County; 208, or 25.9 per cent, in other counties of New York or in other States and Canada; and 104, or 12.9 per cent, were foreign born, by far the greater number of these in Ireland.

CLASSIFICATION OF FAMILY GOODS.

No thoroughly satisfactory classification of the goods consumed in the household has yet been devised. Practice is more or less uniform as regards food and clothing, although different investigators subdivide these headings differently. The items included under housing vary considerably, and those grouped as operation still more. Some authorities make a separate division for furnishings and equipment; while others consider that the more permanent articles, such as dining-room or bed-room sets, belong under investment or housing, and things more frequently renewed under operation. Personal items are sometimes made to include those for the maintenance of health, and for various minor goods, such as stationery or toilet articles, otherwise placed under operating, clothing, or unclassified.

The items which are most difficult to classify and on which opinion and practice are most divided are those for the less material and less essential needs. Various designations have been used for this group of goods, perhaps the least objectionable and most generally adopted being advancement. Here are usually found the items connected with school and college attendance; general self-improvement; physical and social recreation; religious, philanthropic, civic, and social organizations; attendance at lectures, concerts, games, and entertainments of various kinds; and travel for pleasure or personal improvement. Savings and the items concerning maintenance of health should also be placed here, some workers hold; while others prefer to keep these separate.

A further difficulty comes in the case of goods that serve a mixed or indefinite purpose. The cost of the telephone, for example, should usually be divided between the farm business and the home; but even as used for the home, it serves partly to carry on the business of the household and partly to keep up the social contacts of the family. Shall the household charges for it then be listed as operating expenses or advancement, or must one divide the cost between the two? In the case of musical instruments, a piano seems to belong with furnishings; but how about a cornet? Some investigators tend to lump these under sundries, miscellaneous, or incidentals; but careful workers are inclined to distribute them as far as possible

under more definite heads, so that the unclassifiable items may represent a very small proportion of the total except in the case of some emergency.

In most cases, however, there are involved no principles so vital that the classification of the more doubtful items in one way or another is a matter of great importance. The trouble comes from the fact that there is as yet no general agreement and consequently no assurance that the classifications used in various studies give really comparable results. The one here suggested has been worked out with the following considerations in mind: Logical relation of the items as they affect the standard of living, usage of other reliable workers, and practical necessities of schedules and tabulation sheets. The main heads are shown in the following list, together with the subdivisions for the groups in which usage is most varied.

SUGGESTED CLASSIFICATION OF FAMILY GOODS.

1. Food.
2. Clothing (costs include sewing, dry-cleaning, and pressing).
3. Housing (costs include taxes, insurance, improvements, repairs, and depreciation; ten per cent of total value of house may be used as annual cost of rent.).
4. Furnishings and equipment (costs include repairs).
   - Bedding and household linens.
   - Cleaning equipment: Brooms, brushes, carpet sweepers, vacuum cleaners, etc.
   - Curtains, portieres, and window shades.
   - Floor coverings: Carpets, rugs, linoleum, etc.
   - Furniture: Beds, including springs and mattresses, chairs, sofas, tables, etc.
   - Gas engines (portable).
   - Kitchen utensils, including electrical appliances for cooking purposes, canning equipment, and the like.
   - Lamps.
   - Laundry equipment: Washing machines, wringers, irons, ironing boards, etc.
   - Musical instruments.
   - Pictures and ornaments.
   - Sewing equipment: Machine, cutting table, dress form, etc.
   - Stoves.
   - Tableware: China, glass, silver, cutlery.
5. Operation.
   - Automobile (costs include license, tax, operation, repairs, and depreciation at 15 per cent of value at beginning of year; after all costs are computed what appears a reasonable proportion of the total, say 25, 40, or 50 per cent, may be attributed to household use; the cost of the car when used for vacation trips should be computed separately and placed under advancement).
   - Fuel, including gas and electricity, for heat, light, and power.
   - Household labor (hired).
   - Insurance on furnishings and equipment.
   - Laundry work done outside.
   - Postage, express, freight, drayage.
   - Travel by bus, trolley, and train in connection with family and household business.
   - Supplies for cleaning, laundry, and miscellaneous purposes: Soap, matches, paper, tacks, etc.
   - Telephone (proportion of total cost chargeable to all household uses).
   - Water (proportion of total cost chargeable to all household uses).
6. Maintenance of health.
   - Doctors', dentists', oculists', nurses', and hospital services.
   - Medicines.
   - Eyeglasses.
   - Travel to hospitals or for treatments.

7. Advancement.
   - Formal education.
     - Tuition and lessons.
     - Schoolbooks and supplies.
     - Lodging, board, necessary travel, and sundries at school or college.
   - Reading matter.
     - Books other than schoolbooks.
     - Papers and magazines.
   - Music: Sheet music, music books, phonograph records, etc.
   - Indoor games: Checkers, dominoes, etc.
   - Apparatus and supplies for amateur scientific work: Photography, radio, etc.
   - Physical recreation and sport: Athletic supplies, attendance at ball games, etc.
   - Church organizations, missions, and welfare work.
   - Social and educational organizations: Clubs, lodges, fraternal orders, etc.
   - Social gatherings: Dances, parties, picnics, fairs.
   - Concerts, lectures, theaters, and amateur performances.
   - Moving pictures.
   - Vacation and other pleasure trips (costs include special trips by automobile or other means of travel not necessary for the business of the household, and food and lodging specially provided for such trips).
8. Personal.
   - Services of barber and hair dresser, etc.
   - Candy, chewing gum, sodas.
   - Gifts.
   - Jewelry (costs include repairs).
   - Tobacco, pipes, etc.
   - Toilet articles.
9. Savings.
   - Life insurance.
   - Savings accounts.
   - Investments: Real estate, Government securities, bonds, etc.
10. Government (taxes not charged to housing or farm business).
11. Unclassified: Exceptional items, emergencies, etc.

EXPENDITURES AND GOODS CONSUMED.

In tabulating the summaries for the present report not all of the available data were included. The schedule had provided for many items that on closer analysis seemed merely enumerations, bearing no significant relation to one another and giving no definite measure for the standard of living. The only data finally included were those dealing with money values and such others as could be used in significant statistical comparisons with similar figures from other sources or with recognized standards of requirement. For example, tabulations were made of farm facilities listed in the report of the Fourteenth Census of the United States;[3] of kinds and value of food consumed; and of the extent of formal education received by parents and children, because years of schooling represent fairly definite quantities of one type of goods described as advancement.

The data obtained in the cost of goods consumed include not only sums paid for materials and labor but also the value of materials furnished by the farm, of gifts of clothing received, and of unpaid labor furnished by members of the household other than the homemaker. The value of her services is not included for the same reasons that the unpaid labor of the operator is not included in the costs of farm business. Fuel, which is frequently grouped with operating expenses, is here entered separately, because it is largely furnished by the farm.

[3] Selected farm expenses, cooperation, and farm facilities. W. L. Austin. U. S. Dept. Com., Bur. Census, 14th Census Repts., Vol. 5, p. 512-514. 1923.

The average expenditures for the year ending September 1, 1921, of the 295 owner and 107 tenant families are given in Table 1. The value of materials furnished by the farm, of unpaid labor, and of gifts of clothing are shown separately from those purchased or paid for.

TABLE 1.—*Average expenditures in 402 farm families in Livingston County, N. Y., for the year ended September 1, 1921, for various items as shown by the value of materials purchased and of paid labor and by that of materials furnished by the farm, of gifts of clothing, and of unpaid labor.*

Item.	Owner families (295).			Tenant families (107).			All families (402).		
	Furnished.	Purchased.	Total.	Furnished.	Purchased.	Total.	Furnished.	Purchased.	Total.
	Dollars.	*Dollars.*	*Dollars.*	*Dollars.*	*Dollars.*	*Dollars.*	*Dollars.*	*Dollars.*	*Dollars.*
Food	399	379	778	398	441	839	399	395	794
Clothing	4	269	273	5	288	293	4	273	277
Rent	237	.....	237	226	.....	226	234	.....	234
Fuel	56	90	146	69	72	141	59	85	144
All other expenses:									
Other operating expenses	34	84	118	29	109	138	33	91	124
Maintenance of health	.....	76	76	.....	102	102	.....	83	83
Advancement	.....	318	318	.....	327	327	.....	320	320
Personal	.....	23	23	.....	25	25	.....	24	24
Unclassified	.....	14	14	.....	7	7	.....	12	12
Total all other expenses	34	515	549	29	570	599	33	530	563
Grand total	730	1,253	1,983	727	1,371	2,098	729	1,283	2,012

The average annual value of all expenditures appears to be $2,012 per family. The figure for owner families was $1,983, or 1.5 per cent below the general average; while that for tenants was $2,098, or 4.1 per cent above.

VALUE OF GOODS FURNISHED BY THE FARM, OF GIFTS OF CLOTHING, AND OF UNPAID LABOR.

Among all families the farm furnished materials, that is, food, fuel, and housing, worth $692, or 34.4 per cent of the total expenditures. The value for owner families is 34.9 per cent of their total expenditures, and for tenant families, 33 per cent of the total. The values of food furnished are also practically identical, but the values of rent and of fuel furnished vary slightly. The value of owners' rent averages $237, or 11.9 per cent of their total expenditures; and that of tenants, $226, or 10.8 per cent. Fuel furnished for owners has an average value of $56, or 2.8 per cent; for tenants, $69, or 3.3 per cent.

The value of unpaid labor, listed as "Other operating expenses," is estimated as $33 for all families, or 1.6 per cent of the total expenditures. Corresponding figures for owners are $34, or 1.7 per cent; and for tenants, $29, or 1.4 per cent.

Goods furnished by the farm, gifts of clothing, and unpaid labor are together valued at $729 for all families, $730 for owners, and $727 for tenants. The proportion of the total expenditures thus met is 36.2 per cent for all families, 36.8 per cent for owners, and 34.6 per

cent for tenants. In other words, a little over one-third of the family expenses are met without direct purchase; and of this third all but a small fraction comes from the farm as food materials, fuel, and the use of the dwelling house.

DISTRIBUTION OF EXPENDITURES AMONG VARIOUS ITEMS.

The proportion of the total expenditures attributed to the more important groups of needs is shown in Table 2. The results of the present study are compared with those from a cost-of-living study made by the United States Department of Labor in 1918 among 12,096 white families in 92 industrial centers.

The similarity between the figures for owner and tenant families in Livingston County is one of the most striking things shown in Table 2. Another striking feature is the general similarity between the figures for farm and industrial families. Rent cost the farm families of Livingston County a little less than it did the industrial families, and they in turn apparently spent a little less for clothing; otherwise the differences do not seem noteworthy. Unfortunately, in the Department of Labor studies, separate figures were not given for health, advancement, and the other less essential needs, and no comparisons can be made on these points. Such information as was obtained from the present study is included in the discussions of the individual groups of goods consumed.

Roughly speaking, in all the families represented in Table 2, food materials make about two-fifths of the total cost of living, clothing about one-seventh, rent a little more than one-tenth, and light and heat less than one-twelfth. The expenditures for all other purposes come to more than one-quarter of the total.

TABLE 2.—*Distribution of average expenditures for one year among different groups of items as shown in the present study of farm families and in a previous study of families of industrial workers.*

Item.	402 farm families, Livingston County, N. Y., 1920–21.			Item.	12,096 white families in 92 industrial centers, 1918.[1]
	Owner families (295).	Tenant families (107).	All families. (402).		
	Per cent.	*Per cent.*	*Per cent.*		*Per cent.*
Food	39.2	40.0	39.5	Food	38.2
Clothing	13.8	14.0	13.8	Clothing	16.6
Rent	11.9	10.8	11.6	Rent	[2] 13.4
Fuel	7.4	6.7	7.1	Fuel and light	[2] 5.3
All other purposes:					
Other operating expenses	5.9	6.6	6.2	Miscellaneous	21.3
Maintenance of health	3.8	4.9	4.1		
Advancement	16.0	15.6	15.9		
Personal	1.2	1.2	1.2		
Unclassified	.7	.3	.6		
Total all other purposes	27.6	28.6	28.0	Furniture and furnishings	5.1

[1] Cost of living in the United States. U. S. Dept. Labor, Bur. Labor Statistics. Monthly Labor Rev., Vol. 9, No. 2, p. 117–119. 1919.

[2] Not including 295 families in which rent was combined with fuel and light.

FOOD.

As shown in Tables 1 and 2, the food annually consumed in the 402 families had an average value of $794, or 39.2 per cent of the total expenditures, and of this almost equal values were furnished by the farm and purchased. Among owner families slightly more was furnished and less purchased than among tenant families, and the total cost was slightly lower, but the differences are not striking.

The value of the food consumed and the percentage furnished by the farm were estimated as $401 and 62 per cent, respectively, in a study made in 1909 in Livingston County farm homes.[4] In a series of studies made by the Department of Agriculture during 1913–14 among nearly 1,000 farm families in 14 States, the value of food was $448, of which 58 per cent came from the farm.[5]

Compared with these, the values for the families in the present Livingston County study are highest, even when the varying price levels are taken into consideration.

The data collected in the present study include the quantities as well as the costs of the more important kinds of food, such as milk, butter, eggs, different meats, flours, meals, vegetables, fruits, and staple groceries. From these the energy and general nutritive value of the diet can be calculated, but this has not yet been done. The indications are that the diet of these families will prove to be similar to that of the farm families included in a dietary study made by this department in 1918–19.[6] According to that survey, the average American farm diet yields slightly more energy and protein than that in the average town or city home, and costs slightly less. It is fairly varied, but in many cases a freer use of dairy products, eggs, green vegetables, and fruits would provide more surely for the mineral matter, vitamins, and bulk needed for health and normal development.

CLOTHING.

The average expenditure for clothing by the 402 families was $277, or 13.8 per cent of the total. This includes gifts worth about $4 per family. These gifts consisted chiefly of partly worn garments for children and were not found in all the families. When clothing was made at home the cost of materials and of specially hired labor was included but not the labor given by regular members of the household. Neither the cost of professional cleaning and repairing nor the value of the time spent by the women of the household in laundry work and mending was noted. There are no significant differences in the figures for owner and tenant families.

The cost of the clothing provided for each member of the family at home was listed separately on the schedules so that differences in the amounts spent for persons of different age and sex could be determined, and the results are summarized in Table 3.

---

[4] Farm management. G. F. Warren. P. 23–26. 1913.

[5] Value to farm families of food, fuel, and use of house. W. C. Funk. U. S. Dept. Agr., Dept. Bul. 410. 1916.

[6] Food for farm families. H. W. Atwater. U. S. Dept. Agr. Yearbook, 1920, p. 471–484. 1921.

TABLE 3.—*Average cost of clothing for persons of different age and sex, in 402 farm families in Livingston County, N. Y.*

Age group.	Males.		Females.	
	Number of persons.	Cost.	Number of persons.	Cost.
		Dollars.		*Dollars.*
Operators and homemakers	393	69	400	71
Children:				
4 years or less	68	26	63	23
5 to 8 years	75	40	51	37
9 to 12 years	75	56	83	47
13 to 16 years	81	82	65	76
17 to 20 years	57	111	52	112
21 to 24 years	29	124	20	130
25 years and over	44	92	25	79

Some of the more noteworthy points brought out by Table 3 are that sex made practically no difference in the cost of clothing either among the heads of families or among children less than 8 years old; that for both boys and girls the cost of clothing increases rapidly from the age of 17 on, until between the ages of 21 and 24, inclusive, it is almost twice that of their parents; and that the cost of clothing for girls averages very slightly higher than that for boys when they are in the late teens and early twenties. The average cost for both males and females over 16 years of age is $107.

It is interesting to compare these findings with those obtained by the United States Department of Labor in a study of the quantity and cost of clothing purchased by the average workingman's family in 1918.[7] Although the age groupings are not the same in the two studies, the general trend of costs is similar. In the 12,094 industrial families, however, the clothing of the wife appears to cost about $64, or about $7 less than that of the husband for whom the cost is about $71; while for girls over 15 the cost is about $97 and for boys in the same age group about $82. The average expenditure for clothing in all the industrial families studied was $237 [8] as against $277 in the Livingston County farm families, but this may be partly due to differences in price levels at the dates of the studies. Figures showing the cost of clothing in farm families are included in a study in St. Joseph County, Mich., in 1917,[9] and one in Groton, N. Y., in 1920.[10] The average size of the three sets of families is similar. Even when allowance is made for the prices prevalent in 1921, expenditure for clothing appears highest among the Livingston County families.

The schedules for the present study show the number and cost of the more important kinds of garments provided for different individuals, but this material still awaits analysis.

[7] Quantity and cost of clothing purchased by average workingman's family in one year. U. S. Dept. Labor, Bur. Labor Statistics. Monthly Labor Rev., Vol. 15, No. 3, 1922.

[8] Cost of living in the United States. U. S. Dept. Labor, Bur. Labor Statistics. Monthly Labor Rev., Vol. 9, No. 2, p. 118. 1919.

[9] A survey of farm homes. I. M. Bailey and M. F. Snyder. Jour. Home Econ., Vol. 13, No. 8, p. 346–356. 1921.

[10] Cost of living in a small factory town. C. V. Noble. Thesis for degree of Ph. D., Cornell University. (Unpublished.) 1920.

HOUSE AND HOUSE FURNISHINGS.

The valuation of the farmhouses in this study was that determined in the earlier farm management studies in the same area. The values ranged from $400 to $8,000, with an average of $2,340, and in each case represent about 20 per cent of the total value of the farm.[11] Ten per cent of this value was taken as the cost of rent which was intended to cover taxes, insurance on the house, repairs, and 6 per cent interest on investment. This percentage may seem high for farm dwellings, but the value of such property is likely to be underestimated.

The average rent in the present study, $234, is $108 more than the average reported in a study [12] made in the same county 12 years earlier although 8 rather than 10 per cent of the value of the houses was the basis taken then. The present figure is also $102 more than the average from the farm studies made in 14 States 7 years earlier by the United States Department of Agriculture [11] and $43 more than the average paid by the industrial families studied by the United States Department of Labor in 1918.[13] As in the case of such comparison for the other items, allowance should be made for the different price levels.

The number of rooms per person is one of the more generally accepted factors for estimating the quality of housing. In Livingston County, many of the farmhouses were built some years ago when families were larger and the cost of building and operating a house was lower, and in many cases not all the rooms are now in use. The average number of rooms in use that is, furnished ready for occupancy, was 8.8 in the 402 homes. The average number of used rooms and bedrooms for each member of the household, according to the number of children per family, is shown in Table 4, together with the average value of the house.

TABLE 4.—*Average number of used rooms per person per household in 402 farm homes in Livingston County, N. Y., grouped according to the number of children, and average value of house.*

Number of children per family.	Families.	Used rooms per person per household.		Value of house.
		All rooms.	Bedrooms.	
	Number.	*Number.*	*Number.*	*Dollars.*
None	75	3.1	1.5	2,370
1	97	2.4	1.2	2,570
2	99	1.9	1.0	2,690
3	58	1.6	.9	2,130
4	33	1.5	.8	2,570
5	19	1.3	.7	2,310
6 or more	21	1.2	.6	2,350
Average for all families	402	1.9	1.0	2,340

[11] Value to farm families of food, fuel, and use of house. W. C. Funk. U. S. Dept. Agr., Dept. Bul. 410. 1916.
[12] Farm management. G. F. Warren. P. 26. 1913.
[13] Cost of living in the United States. U. S. Dept. Labor, Bur. Labor Statistics. Monthly Labor Rev., Vol. 9, No. 2, p. 118. 1919.

According to the figures in Table 4, in these households there was nothing that could be called overcrowding as that word is commonly understood in housing legislation. The average figures are 1.9 rooms and 1 bedroom per person. None of the groups averaged 2 persons to a bedroom; only in 3 families that had 8 or more children was the number of rooms in use less than the number of persons in the household; and in over 40 per cent of the homes an average of more than 2 rooms was used per person. Both the number of rooms and of bedrooms used per person decreased as the number of children increased. The average value of the house bore no apparent relation to the size of the family.

Among the farm facilities affecting the comfort and convenience of the house listed in United States Census for 1920 [14] are running water piped into the house and gas or electric lights. The figures are based on houses occupied by operators and they are thus comparable with those from the 402 Livingston County homes. Among the latter, 19.8 per cent had water piped in. The corresponding census figure for New York State was 23.5 per cent; and for the Middle Atlantic division, 23.3 per cent. Vermont had the highest percentage of any State, 62.9 per cent; and New England of any division, 47.9 per cent. For the whole country the average is 10 per cent.

Another interesting point is that among the 402 houses in Livingston County 12.9 per cent had both hot and cold running water, and that in 15.1 per cent there was special provision for sewage disposal.

Gas or electric lights were found in 27.1 per cent of the houses of owners, in 17.7 per cent of the houses of tenants, and in 24.6 per cent of all 402 houses. Corresponding figures from the 1920 census reports are: New York State, 12.9 per cent; Middle Atlantic division, 14.1 per cent; New England, 15.3 per cent; and the entire United States, 7 per cent. The highest figures for this farm facility are for the Pacific division, 19.3 per cent; and for Utah, 43.4 per cent.

If, as the census report suggests, the prevalence of such farm facilities is an index of progress significant from both an economic and a social point of view, the figures just quoted bear out the belief that the area studied is above the average in these respects.

Furniture, bedding, draperies, linens, ornaments, cleaning and cooking equipment, and all the other items grouped as furnishings and movable equipment have much to do with the comfort and satisfaction which a family gets from its home. Unfortunately, it is difficult to obtain significant data about these items. A special detailed study of household equipment would doubtless suggest what points should be included in general studies of the cost or standard of living. Until that has been done, the only figures worth considering seem to be estimates of the total value of house furnishings and possibly the frequency with which certain articles occur.

Among the 402 families in Livingston County the estimated value of house furnishings averaged $822, with $813 among owner and $847 among tenant families. The general average equals about 40.8 per cent of the annual expenditure and 35.1 per cent of the estimated value of the house. Unfortunately there are no data from other investigators with which these figures can be compared.

[14] Selected farm expenses, cooperation, and farm facilities. W. L. Austin. U. S. Dept. Com., Bur. Census, 14th Census Repts., Vol. 5, p. 512–514. 1923.

The prevalence of labor-saving equipment is sometimes considered a gauge of the standard of living, because it is believed to represent the importance placed on lessening the physical labor of the women of the family. Power-washing machines were chosen in the present study as perhaps the most significant article of this kind. They were found in 16.9 per cent of the homes of owners and 17.7 per cent of those of tenants.

OPERATION.

The annual cost of fuel has already been discussed (p. 9). The other items included under operation were expenditures for furnishings, miscellaneous household supplies, power for household uses, laundry done out of the home, and household labor. All of these together represented $124, or 6.2 per cent of the total expenditures. If the cost of fuel is added to these, the total operating cost averages $268, or 13.3 per cent.

In 22, or 5.5 per cent, of the families the laundry was done outside the home and represented part of the operating expenses.

Household labor, which here includes such work as caring for poultry or working in the home vegetable garden, is the only item among "Other operating expenses" that was tabulated separately. Its value was determined by adding together the cost of paid labor and the estimated value of the unpaid labor furnished by any adult member of the household, except the home maker, and by subtracting from the sum of these the value of the unpaid labor furnished by the women and adult girls of the family to such farm activities as plowing, haying, and milking.

HEALTH.

The amount spent for the maintenance of health averaged $83 per family, or 4.1 per cent of the total average annual expenditure. Guides to the health of the households might be found in the sanitary condition of the house and the extent of physical defects and illness among the members. The only one of these on which statistics are here included is the extent of illness.

Among members of families about 11,000 working days were lost by illness, or about 6 days per person per year. Of these days 27.5 per cent were lost because of minor illness, and 72.5 per cent on account of serious illness. Minor illness signifies that which, while it prevents a person from going about his regular business, does not call for much special care from others; serious illness includes cases that require constant attention, whether from a member of the family or a special nurse and whether at home or in a hospital.

ADVANCEMENT.

In the present study it was not feasible to include expenditures for all of the items grouped under advancement in the list on p. 8. Figures were collected for formal education, reading matter, contributions to church organizations, entertainments, cost of automobile attributable to household use, and cost of other travel. Expenditures for formal education (Table 5) include primarily money spent for books and supplies in elementary schools and tuition and miscellaneous expenses at high schools and colleges. School taxes are not included.

TABLE 5.—*Average annual expenditures for certain items of advancement in 402 farm families in Livingston County, N. Y.*

	Owner families (295).		Tenant families (107).		All families (402).	
	Amount.	Proportion of total.	Amount.	Proportion of total.	Amount.	Proportion of total.
	Dollars.	*Per cent.*	*Dollars.*	*Per cent.*	*Dollars.*	*Per cent.*
Formal education	39	2.0	29	1.4	36	1.8
Reading matter	14	.7	13	.6	14	.7
Contributions to church organizations	45	2.3	28	1.3	40	2.0
Entertainments	11	.5	16	.8	13	.6
Cost of operating and repairing automobile	64	3.2	67	3.2	65	3.2
Other travel	13	.6	11	.5	12	.6

Among the items of advancement especially tabulated, the largest is the cost of operating and repairing the automobile. This averages $65 a year, or 3.2 per cent of all expenditures. Cars were owned by 304, or 75.6 per cent, of the 402 families, and the annual expense per car was $86. Automobiles are among the farm facilities listed by the United States Census for 1920 [15] and are reported for 35.2 per cent of all farms in New York State and throughout the Middle Atlantic division. The percentage for Nebraska exactly equals that for the Livingston County farms, and Iowa is not far behind with 73.1 per cent. These States are far above the average of 30.7 per cent for the United States.

Next to the expenditure for automobiles the largest item under advancement is contributions to church organizations, which average $40 a family, or 2 per cent of the total expenditures. Of interest in this connection may be the fact that the average church attendance for all adults in the 402 families was estimated at 30 times a year, including Sunday and week-day services.

The third largest item is the cost of formal education, which includes tuition, books, and board, lodging, and travel incurred in connection with attendance at school or college. These amount to $36, or 1.8 per cent of all expenditures.

The item entertainments includes chiefly admissions to chautauqua, lyceum, or lecture courses, moving-picture theaters, and church or community bazaars, fairs, socials, and suppers. These represent only a part of the recreational activities of country life, most of which are connected with the school, church, grange, or other local organization. The average expenditure for entertainments was $13, or 0.6 per cent of the total.

A detailed study of the expenditures for advancement showed no significant differences between owner and tenant families and no apparent difference in the amounts spent for males and females. Age, however, had considerable effect in the amount spent per person. Children under 6 seemed not to add to the amount spent for this group of items, but that spent for each child under 15 was about four-fifths and that for children between 15 and 20 about one and one-fifth of the amount spent for an adult.

[15] Selected Farm Expenses, Cooperation, and Farm Facilities. W. L. Austin. U. S. Dept. Com., Bur. Census, 14th Census Repts., Vol. 5, pp. 512–514. 1923.

Aside from expenditures for various purposes, a few other items were recorded which it was felt might indicate something of the degree of advancement enjoyed or desired by these families. Among these were the extent of education received, the reading matter provided at home, and the prevalence of telephones.

An attempt is made in Table 6 to show the amount of formal education received by operators and home makers in the 402 families. Such a classification is difficult because of the wide variety of schools attended and the many lines of training followed. Courses believed to have equivalent educational value were grouped together regardless of the designation of the institutions in which they were given. In the case of education above the eighth grade, the number of terms spent in a high school and the number of years spent in college were used as measures.

TABLE 6.—*Formal education received by operator and home maker in 402 farm families in Livingston County, N. Y.*

Extent of education of operator and home-maker.	Owner families (295).		Tenant families (107).		All families (402).	
	Number.	*Per cent.*	*Number.*	*Per cent.*	*Number.*	*Per cent.*
Neither more than eighth grade	135	45.8	49	45.8	184	45.8
One, eighth grade; other, 1 or more years in high school	78	26.4	31	29.0	109	27.1
Both 1 or 2 years in high school	47	16.0	13	12.2	60	14.9
Both 3 or 4 years in high school	22	7.5	6	5.6	28	7.0
One, 3 or 4 years in high school; other, 1 or more years in college	6	2.0	5	4.7	11	2.7
Both 1 or more years in college	7	2.4	3	2.8	10	2.5

In the area studied there was one consolidated school; otherwise the children in the elementary grades went to small rural schools with one teacher. Few under high-school grade were obliged to be away from home over week-ends in order to attend school. For high-school or normal-school courses some boys and girls could get to and from home each day, but the majority had to live in near-by towns at least during the week. Many of these took provisions from home and did their own cooking to keep down expenses. All college students lived away from home.

It was not feasible in the present study to record how regularly children of various ages attended school or at what age all stopped going to school. In the case of families with children 18 years old or over—that is, old enough to have finished high school—note was taken of the grade at which their formal education ended. There were 165 such families, and in Table 7 are given the number and proportion of these who withdrew the children at various grades and their distribution between owner and tenant families. Corresponding figures for the 92 families having children 23 years of age or older—that is, old enough to have finished college—are given in Table 8.

TABLE 7.—*Extent of formal education received by at least one child in each of 165 farm families having children 18 years of age or older, in Livingston County, N. Y.*

Grades or years completed.	Owner families (139).		Tenant families (26).		All families (165).	
	Number.	*Per cent.*	*Number.*	*Per cent.*	*Number.*	*Per cent.*
Less than eighth grade	19	13.7	4	15.4	23	13.9
Eighth grade to less than fourth year high school	44	31.6	9	34.6	53	32.1
High school graduate	43	30.9	7	27.0	50	30.3
1 or 2 years in college	25	18.0	3	11.5	28	17.0
3 or 4 years in college	8	5.8	3	11.5	11	6.7

TABLE 8.—*Extent of formal education received by at least one child in each of 92 farm families having children 23 years of age or older, in Livingston County, N. Y.*

Grades or years completed.	Owner families (75).		Tenant families (17).		All families (92).	
	Number.	*Per cent.*	*Number.*	*Per cent.*	*Number.*	*Per cent.*
Less than eighth grade	13	17.3	3	17.6	16	17.4
Eighth grade to less than fourth year high school	21	28.0	4	23.6	25	27.2
High school graduate	20	26.7	4	23.6	24	26.0
1 or 2 years in college	13	17.3	3	17.6	16	17.4
3 or 4 years in college	8	10.7	3	17.6	11	12.0

In so far as these figures may be considered typical, at least five-sixths of the families kept children in school up to or beyond the eighth grade. Among families with children old enough to have finished high school, slightly more than half had children who were high-school graduates. Among those with children old enough to have finished a college course, about one-quarter had sent children to college for one or two years and about one-eighth for three or four years.

Telephones were found in 272, or 67.7 per cent of the houses. The corresponding figures as shown in the 1920 census [16] are 47.6 per cent for New York State, 44.5 per cent for the Middle Atlantic division, and 38.7 per cent for the United States. Telephones were more common in four States than in the Livingston County area.

From the figures quoted and from other information on the schedules, it would appear that the Livingston County families devoted about one-sixth of their total expenditures to advancement. Most of the homes contained some books and an abundant supply of periodicals. The great majority had some kind of musical instrument, most commonly a piano or a phonograph, and not infrequently both. The families devoted 2 per cent of their total expenditures to religious organizations and the adults attended church services oftener than twice a month. Three-quarters of the families owned automobiles and spent an average of $86 a year in running them for household purposes and pleasure. Moreover, there was an average expenditure of $12 a year for other forms of travel. These statements confirm the opinion that the standard of living in this area is above the average for the country at large.

[16] Selected Farm Expenses, Cooperation, and Farm Facilities. W. L. Austin. U. S. Dept. Com., Bur. Census, 14th Census Repts., Vol. 5, pp. 512-514. 1923.

SAVINGS.

Life insurance was the only type of savings for which figures were tabulated. Expenditures for this averaged $42, or 2.1 per cent of the total expenditures among the 402 families. Many of the persons interviewed felt that other types of savings ought to make an important item in the family budget, but there were too few cases of such savings to give a significant average. Others thought that money put back into the farm business or into permanent improvements on the house should be listed here. Many cases of inability to make both ends meet were reported, especially debts which would be met when last year's grain crop was sold.

COST-CONSUMPTION UNIT AND HOUSEHOLD-SIZE INDEX.

Neither the household nor the family makes a satisfactory basis for comparing costs in families of as variable make-up as those found in farm homes. Both fail to take account of the fact that the number, sex, and age of individuals composing the household make a difference in needs for food, rent, clothing, and other items. The difficulty of finding a common unit has frequently been avoided in cost-of-living studies by selecting the "standard" family; that is, a family consisting of husband, wife, and three children, the sex and age of the children varying somewhat with different investigators. Such selection, however, may prevent results from being representative of the group or the area studied unless the number of families included is very large.

The per-capita unit, the adult equivalent, and what is sometimes termed the "adult-male equivalent," represent efforts to reduce families of varying composition to a common unit of comparison. The per-capita unit is the simplest but fails to take account of the variations in individual demands due to sex and age. The adult-equivalent unit, which usually counts two children as equal in their requirements to one adult, also ignores sex and accurate age requirements. This discrepancy has sometimes been partially removed by dividing the children among several age groups and increasing the allowance for each group in accordance with the age; but, even so, sex is disregarded and the results are unsatisfactory.

Among the first attempts at arriving at an adult-male-equivalent unit in expenditures for all purposes was that of Ernst Engel from results of his studies [17] of workingmen's families. This started with the individual at infancy as unity and increased by one-tenth unit for each year of age up to and including the twentieth year for females and the twenty-fifth for males.

As study of the cost of living developed, separate scales for measuring cost consumption in the different groups of expenditures have appeared more and more desirable. In 1890 the United States Department of Labor adopted the following scale for reducing expenditures for food to the terms of an adult male: [18]

Husbands	100
Wives	90
Children from 11 to 14 years, inclusive	90
Children from 7 to 10 years, inclusive	75
Children from 4 to 6 years, inclusive	40
Children from 1 to 3 years, inclusive	15

[17] Die Lebenskosten Belgischer Arbeiter—Familien Früher und Jetzt. Ernst Engel. 1895.
[18] Sixth Annual Report of the Commissioner of Labor, 1890. U. S. Dept. Labor. P. 621. 1891.

A similar scale more closely adapted to variations in physiological requirements is still used by the United States Bureau of Labor Statistics in its studies of the cost of living.

No scales representing the varying individual needs in terms of cost have been generally adopted for any other group of household expenditures. One part of the present study has therefore consisted in the attempt to devise reasonable units of comparison for the more important groups of needs. For this purpose it has been assumed that the expenditures of these families are equivalent to their needs for food, clothing, and the other items. The requirements of the adult male have been taken as the unit for a given group of needs; and, from careful study of the records, scales have been set up by means of which the needs of individuals of different sex and age can be measured in terms of this adult male. Such a unit is here termed a cost-consumption unit. The sum of these units which represents the needs of a household in respect to food, clothing, or other goods, is called the household-size index for that item; and the total expenditure for that item, divided by its household-size index, gives the cost per cost-consumption unit, the figure by means of which different households may be compared. For example, if for three groups of families the average expenditures for clothing were $200, $250, and $300, and the household-size indexes for clothing were 3, 5, and 4, their clothing costs per cost-consumption unit would be $66.67, $50, and $75, respectively.

FOOD.

The scale used in determining the household-size index for cost consumption of food was adapted from the commonly used scale of dietary factors set up by the United States Department of Agriculture.[19] These factors represent an attempt to state in terms of a common unit the nutritive needs of individuals differing in age, sex, and muscular activity. They are based both on studies of many typical family diets and on laboratory and clinical knowledge of physiological requirements; they are designed to be applied to the energy supplied by the food material in the diet; and they are held subject to revision as more accurate information accumulates. An adult male, at moderate muscular work, whose energy consumption is assumed to be between 3,000 and 3,300 calories of energy per day, is taken as unity, against which the demands of individuals of different sex, age, and activity are at present weighted as follows:

Man or boy over 12 years of age at severe muscular work	1.2
Man or boy over 12 years of age at moderate muscular work	1.0
Man or boy over 12 years of age at light muscular work	.8
Woman or girl over 12 years of age at severe muscular work	1.0
Woman or girl over 12 years of age at moderate muscular work	.8
Woman or girl over 12 years of age at light muscular work	.7
Child 10 to 12 years of age	.6
Child 6 to 9 years of age	.6
Child 2 to 5 years of age	.4

It can not be assumed that the cost of food may be accurately measured in these same terms, because the price charged is no indication of the nutrients and energy supplied by a given food. More-

[19] Principles of Nutrition and Nutritive Value of Food. W. O. Atwater. U. S. Dept. Agr., Farmers' Bul. 142. Revised, 1910.
Good Proportions in the Diet. C. L. Hunt. U. S. Dept. Agr., Farmers' Bul. 1313. 1923.

over, personal efficiency in buying and preparing food and the more economical utilization possible in larger families may affect the cost without affecting the nutritive value of the diet. These dietary factors have, nevertheless, sometimes been applied to the cost of food and are considered by some students to give better results than the units of comparison previously quoted. A recent interesting attempt to adapt these factors to the cost of food and also to other items of expenditure is that made by Sydenstricker and King in their studies of conditions of living in Southern mill towns.[29] The scale used in determining the household-size index for food in the present study is made up of the dietary factors slightly modified to adapt them to the special conditions of the study, and is as follows:

Man or boy 15 years of age or over:	
At moderate work	1.0
At hard work	1.2
At light work or in old age	.8
Woman or girl 17 years of age or over:	
At moderate work	.8
At hard work	1.0
At light work or in old age	.7
Average male over 15 years of age or female over 17 years of age	1.1
Boy 13 to 15 years of age	.8
Girl 15 to 16 years of age	.8
Boy 10 to 12 years of age or girl 10 to 15 years of age	.7
Boy or girl 6 to 9 years of age	.6
Boy or girl 2 to 5 years of age	.5
Boy or girl below 2 years of age	.3

CLOTHING.

No factors comparable to those used in the scale for food have been worked out for clothing or indeed for any other group of needs. One reason for this is that, while dietary needs can be somewhat definitely measured in physiological terms, the others depend largely on more general considerations, some of them as intangible as social and aesthetic values. In attempting to work out the relative needs of different individuals in the present study, it was therefore necessary to start with the information provided on the schedules themselves. In studying the expenditures for clothing, the records were sorted according to the number, age, and sex of the members of the family. It was found that for persons of the same age, sex made not enough difference in the cost of clothing to justify the computation of a separate scale of units for each sex. The following scale was used in determining the household-size index for cost consumption of clothing.

Operator	1.0
Home maker	1.0
Other person over 16 years of age	1.5
Child 15 to 16 years of age	1.0
Child 11 to 14 years of age	.9
Child 6 to 10 years of age	.6
Child under 6 years of age	.3

[29] A Method of Classifying Families according to Incomes in Studies of Disease Prevalence. E. Sydenstricker and W. I. King. U. S. Treas. Dept., Pub. Health Serv. Pub. Health Repts., Vol. 35, No. 48, p. 2829–2846. 1920.

RENT.

In analyzing the expenditures for rent, the families were reduced to a common adult basis by using figures tentatively suggested by Bowley.[21] These count a boy over 18 and a girl over 16 years of age as equivalent to one adult, a boy between 14 and 18 years and a girl between 14 and 16 as three-fourths adult, a child between 5 and 14 years as one-half adult, and a child under 5 years as one-fourth adult.

Hired men and others who were members of the household for only part of the year were weighted according to the length of time they were housed; for example, a man living with the family for six months was counted as one-half adult.

The schedules were first sorted according to the number of children per family, but this grouping showed little or no rise in the cost of rent as the number of children increased. The schedules were therefore resorted according to the size of the household. On this basis, it appeared that the cost of rent was increased about 0.5 of 1 point by each adult other than operator and home maker. When the ages of the children were considered, it appeared that the increase in the cost of rent was about twice as great for those over 15 as for those between 6 and 15 years, and that no increase was caused by children under 6 years. Another fact to be remembered in devising a scale for cost consumption in rent is that the number of bedrooms required is influenced by the sex of the individuals of different ages. The following scale attempts to make allowance for all these points and was used in determining the household-size index for rent:

Operator	1.0
Home maker	1.0
First male, 15 years of age or over	.2
First female, 15 years of age or over	.2
Second male, 15 years of age or over	0
Second female, 15 years of age or over	0
Third male, 15 years of age or over	.2
Third female, 15 years of age or over	.2
Fourth male, 15 years of age or over	0
Fourth female, 15 years of age or over	0
First boy, 6 to 14 years of age	.1
First girl, 6 to 14 years of age	.1
Second boy, 6 to 14 years of age	0
Second girl, 6 to 14 years of age	0
Third boy, 6 to 14 years of age	.1
Third girl, 6 to 14 years of age	.1
Fourth boy, 6 to 14 years of age	0
Fourth girl, 6 to 14 years of age	0
All under 6 years of age	0

FUEL.

On studying the expenditures for fuel it was found that age and sex made no perceptible difference in this item, and that each person in addition to operator and home maker increased the expenditure about 5 per cent of the joint cost for those two. The following scale was therefore adopted:

Operator	1.0
Home maker	1.0
Each other person	.1

[21] The Nature and Purpose of the Measurement of Social Phenomena. A. L. Bowley. P. 120. 1915.

MAINTENANCE OF HEALTH.

To analyze expenditures for health, the membership of the household was reduced to an adult-equivalent basis by the use of the figures suggested by Bowley (p. 22). It appeared that sex had no influence; that, for children between 15 and 20 years of age, the cost of maintaining health was about two-thirds that for adults; that for children between 6 and 14 it was about equal to that for adults; and that for those under 6 it was about one-third more. The following scale was therefore adopted to determine the household-size index for the cost of maintaining health:

Adult	1.0
Child 15 to 20 years of age	.7
Child 6 to 14 years of age	1.0
Child under 6 years of age	1.3

ADVANCEMENT.

The records give no indication that the expenditures for advancement were affected by sex. Considering the expenditure for operator or home maker as equivalent to one unit, it was found that each additional adult increased expenditure for this purpose by five-tenths, each child between 15 and 20 years of age increased it slightly more, each child between 6 and 15 slightly less, and children under 6 years not at all. The following scale was therefore adopted to determine the household-size index for advancement:

Operator	1.0
Home maker	1.0
Other adult	.5
Child 15 to 20 years of age	.6
Child 6 to 14 years of age	.4
Child under 6 years of age	0

PERSONAL EXPENSES.

The expenditures for items grouped as "Personal" were found to average about one-third less for women than for men. For boys from 6 to 21 years of age, the figures averaged about half as large as those for men, and for girls of the same age about one-fourth. Children less than 6 years old apparently caused no increase in these expenditures. The following scale was therefore adopted in determining the household-size index for personal expenses:

Adult, male	1.0
Adult, female	.7
Boy 6 to 20 years of age	.5
Girl 6 to 20 years of age	.3
Child under 6 years of age	0

UNCLASSIFIED.

The expenditures grouped as "Unclassified" did not appear to be influenced by age or sex. Considering the expenditure for the operator or the home maker as equivalent to one unit, each additional individual appeared to increase the expenditures for this purpose by about five-tenths. Therefore, determining the household-size index for the cost of incidentals, the operator and home maker were each weighted as 1 and each additional member of the family as 0.5.

APPLICATION OF COST-CONSUMPTION UNIT.

The average expenditures per cost-consumption unit were calculated in the present study by the use of the household-size index scales just described. The percentages of total expenditures for various purposes were based upon the average totals for the 402 families. For example, in the case of food the average amount spent for this purpose per cost-consumption unit, $173, was divided by the average total expenditure for all purposes, $582, to obtain the proportion spent for food, 29.7 per cent. This method is the one followed in calculating the average expenditures per family. The results are shown in Table 9, together with those showing the average expenditures per family.

TABLE 9.—*Average expenditures for various purposes in 402 farm families, Livingston County, N. Y., for the year ending September 1, 1921, as measured per cost-consumption unit and per family.*

Group of expenditures.	Per cost-consumption unit.		Per family.	
	Amount.	Proportion of total.	Amount.	Proportion of total.
	Dollars.	*Per cent.*	*Dollars.*	*Per cent.*
Food	173	29.7	794	39.5
Clothing	71	12.2	277	13.8
Rent	101	17.4	234	11.6
Fuel	64	11.0	144	7.1
All other purposes:				
Other operating expenses	27	4.6	124	6.2
Maintenance of health	21	3.6	83	4.1
Advancement	115	19.8	320	15.9
Personal	7	1.2	24	1.2
Unclassified	3	.5	12	.6
Total all other purposes	173	29.7	563	28.0
Grand total	582	100.0	2,012	100.0

The average household-size index for the various groups of expenditures may be calculated by dividing the expenditure per family by the expenditure per cost-consumption unit, and thus obtained are: Food, 4.6; clothing, 3.9; rent, 2.3; fuel, 2.3; all other purposes, 3.3; other operating expenses, 4.6; maintenance of health, 4; advancement, 2.8; personal, 3.4; unclassified, 4. The average for all groups of expenditures was 3.5. The average number of persons per family (p. 6) was 4 individuals, about one-seventh larger than the average of household-size indexes for all groups of expenditures. The average size of households (p. 6) was 4.9 individuals, a figure larger than any household-size index.

As a rough test of the accuracy of the scales, the families were grouped according to the number of children in the family, and the expenditures per cost-consumption unit were worked out for the various items. An accurate scale would correct variations due to the size and make-up of the individual families and would give uniform figures. How nearly the present scale meets this test will be seen in Table 10.

TABLE 10.—*Average expenditures per cost-consumption unit for the year ending September 1, 1921, among 402 farm families in Livingston County, N. Y., arranged according to number of children.*

Number of children per family.	Number of families.	Expenditures per cost-consumption unit.									
		Food.	Clothing.	Rent.	Fuel.	Other operating expenses.	Health.	Advancement.	Personal.	Unclassified.	All purposes.
		Dolls.	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*
None	75	193	65	105	66	26	23	121	7	3	609
1	97	180	74	104	66	33	26	134	6	2	625
2	99	169	74	111	66	30	22	113	7	6	598
3	58	166	70	89	56	21	16	97	6	3	524
4	33	164	80	98	66	24	19	120	10	2	583
5	19	160	60	87	60	17	11	91	5	.....	491
6 or more	21	145	71	87	55	22	10	70	6	.....	466
Average of all families	.....	173	71	101	64	27	21	115	7	3	582

In studying the expenditures for food per cost-consumption unit, the sum is seen to decrease more or less regularly as the size of the family increases. Apparently the present scale gives too great weight to additional members of the family. The data now available are not sufficient for judging whether this means that insufficient allowance was made for adults or that more allowance should be made for the fact that food can be purchased and utilized to better advantage when the number of persons is larger. The figures for clothing show about as wide a variation as those for food, but the variation is less regular. Records of expenditure for persons of various ages must evidently be studied more in detail before a reliable scale can be set up. In the matter of rent also the variation is about as wide as in food. There is a tendency for the figure to decrease as the size of the family increases, but this decrease is not so regular as in the case of food. Expenditures for other items also show more or less variation. It is hoped that as more records become available and more families are included in the averages such variations will tend to disappear.

It is realized that the present scales are based on too little information to be considered more than tentative.[22] All that is hoped from their use here is that they may lead to more acceptable scales and thus ultimately provide a satisfactory means of comparing the cost of the different goods among various families.

EXPENDITURES PER COST-CONSUMPTION UNIT AND FACTORS INDICATIVE OF THE STANDARD OF LIVING.

The figures showing expenditures per cost-consumption unit, though still far from accurate, give a better idea of the cost of the various goods used to meet the needs of the family than do expenditures per family, because they make allowance for the variations in the make-up of families. The computation of the expenditures

[22] After the preceding tables were worked out on the basis of the various cost-consumption units devised for the study, it was thought best to test the validity of the various units by the method of "least squares" to see which sets of unit contained the largest degree of error. It was found that the most unsatisfactory units were in connection with food, health, and personal: in food for the older boy and girl, in health for the child from 6 to 14 years of age, in personal for the adult female. The results were satisfactory for the clothing, fuel, rent, operating, advancement, and unclassified units. In future studies it is hoped that, by employing the several statistical methods of checking out erroneous weighted scales, a much closer approximation to facts may be made.

per cost-consumption unit is complicated, making it highly desirable to determine whether or not some other figures, indicative of the standard of living may prove to be satisfactory for general use. With this object in view test comparisons were made with success of the farm business, measured by size of farm, capital invested, and amount of work accomplished on the farm; with the values of the house and of its furnishings; and with several more personal or social factors, such as education and the support given to religious organizations. The success of the farm business has been measured in many areas during the last 15 years; the other items are objectively simple and easy to measure. The results of the test comparisons for Livingston County are given in Tables 11 to 22, inclusive. These results are variable, but nevertheless show something of the relation between the standard of living and the specified factors of farm life.

SUCCESS OF FARM BUSINESS.

In considering the standard of living among farm families, one of the first questions is the relation of that standard to the success of farm business. Obviously the business must be successful enough to provide for more than the absolute necessities of life if the general standard of living is to be raised; but it does not necessarily follow that the more successful the business the more nearly the standard of living approaches the ideal. Nearly every community contains examples of families who with less money to spend manage to obtain more comfort and personal satisfaction and who are considered more valuable members of society than some of their neighbors with larger means. It would be of interest if the figures from the present study could be used to show what relation success in the farm business bears to the value of the living enjoyed by the family and also to the importance placed on the less essential and tangible goods, such as are included under advancement. Figures showing this relation are given in Tables 11, 12, and 13.

TABLE 11.—*Relation of number of acres operated during the year ended March 1, 1919, to average total household expenditures and the proportion thereof devoted to advancement, among 402 farm families, Livingston County, N. Y., for the year ended September 1, 1921.*

Number of acres operated.	Number of farms.			Average number of acres operated per farm.			Total household expenditures per cost-consumption unit.					
										Devoted to advancement.		
	Owner families.	Tenant families.	All families.	Owner families.	Tenant families.	All families.	Owner families.	Tenant families.	All families.	Owner families.	Tenant families.	All families.
							Dolls.	*Dolls.*	*Dolls.*	*P.ct.*	*P.ct.*	*P.ct.*
Less than 50	30	2	32	28	43	29	448	473	449	14.5	14.3	14.5
50 to 99	80	13	93	69	76	70	523	483	518	15.6	11.4	15.0
100 to 149	91	37	128	121	128	123	552	528	545	18.7	15.8	17.9
150 to 199	51	19	70	166	173	168	637	666	645	18.8	21.7	19.6
200 to 299	33	24	57	239	247	242	699	656	681	20.7	17.3	19.3
300 and over	10	12	22	388	422	406	762	823	795	18.9	27.6	23.7
Total	295	107	402									
Average				128	188	144	572	608	582	17.6	18.0	17.7

TABLE 12.—*Relation of the capital invested in the farm business for the year ending March 1, 1919, to average total household expenditures and proportion thereof devoted to advancement, among 402 farm families, Livingston County, N. Y., for the year ended September 1, 1921.*

Amount of capital invested.	Number of farms.			Average amount of capital invested per farm.			Total household expenditures per cost-consumption unit.					
										Devoted to advancement.		
	Owner families.	Tenant families.	All families.	Owner families.	Tenant families.	All families.	Owner families.	Tenant families.	All families.	Owner families.	Tenant families.	All families.
				Dolls.	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*	*P. ct.*	*P. ct.*	*P. ct.*
Less than $7,500	50	4	54	5,523	6,056	5,563	434	416	433	13.4	13.2	13.4
$7,500 to $12,499	66	22	88	10,259	10,130	10,227	525	496	517	15.3	11.6	14.3
$12,500 to $17,499	78	19	97	14,974	15,253	15,028	563	495	550	17.5	17.3	17.5
$17,500 to $24,999	55	26	81	20,204	21,494	20,618	590	611	597	20.7	20.6	20.7
$25,000 to $39,999	34	25	59	30,035	32,519	31,087	745	706	729	22.5	18.6	20.9
$40,000 and over	12	11	23	49,578	54,172	51,775	891	864	878	20.9	25.7	23.2
Total	295	107	402									
Average				16,436	23,407	18,291	572	608	582	17.6	18.0	17.7

TABLE 13.—*Relation of the labor employed, including the operator's time, in the farm business for the year ending March 1, 1919, to average total household expenditures and the proportion thereof devoted to advancement among 402 farm families, Livingston County, N. Y., for the year ended September 1, 1921.*

Number of work units employed.	Number of farms.			Average work units employed per farm.			Total household expenditures per cost-consumption unit.					
										Devoted to advancement.		
	Owner families.	Tenant families.	All families.	Owner families.	Tenant families.	All families.	Owner families.	Tenant families.	All families.	Owner families.	Tenant families.	All families.
							Dolls.	*Dolls.*	*Dolls.*	*P. ct.*	*P. ct.*	*P. ct.*
Less than 200	56	3	59	152	173	153	456	438	455	13.7	11.0	13.5
200 to 299	69	14	74	252	267	254	513	437	499	15.3	11.9	14.6
300 to 399	68	25	93	351	352	351	585	521	568	19.3	13.9	17.9
400 to 599	72	31	103	495	482	491	580	620	592	18.0	19.5	18.4
600 to 999	30	21	51	718	821	760	746	681	719	22.2	20.0	21.3
1,000 and over	9	13	22	1,216	1,287	1,258	943	849	888	27.0	26.9	26.9
Total	295	107	402									
Average				392	579	442	572	608	582	17.6	18.0	17.7

It will be observed that the average proportion of the total expenditure for advancement is here given as 17.7 per cent, whereas the corresponding figure in Table 9 (p. 24) is 19.8 per cent. This discrepancy is due to the fact that the figure in Table 13 was obtained by averaging the percentages for individual families rather than from the average for all families.

According to Tables 11, 12, and 13 the total expenditure per cost-consumption unit increases fairly regularly as the size of the farm business increases, whether measured by acres operated, capital invested, or work units employed. This indicates that among the

families studied increased business is accompanied by a more generous scale of family living.

The proportion of the expenditures devoted to advancement is also seen to increase fairly regularly with the size of the farm business, however measured; but the variations between the averages for the individual groups are no more regular or significant than in the case of total expenditures. The use of the cost-consumption units here adopted thus tends to confirm the general belief that expenditures for advancement increase as families become more prosperous. It does not, however, indicate that the amount spent for advancement by the families in the present study gives a more trustworthy indication of their standard of living than does the amount spent for all purposes.

No analysis was made to show the relation of mortgages on the farm and personal indebtedness to family expenditures. The records indicate clearly, however, that neither of these conditions affected either the total family expenditures or the proportion devoted to advancement. In other words, mortgages and personal debts did not seem to lower the standard of living among these families.

VALUE OF HOUSE AND HOUSE FURNISHINGS.

The house and its more important furnishings are among the major assets of most families who own their farms, and on the tenant farms in the area here studied their value is also significant of the general value of the farm property and of the economic ability of the family to make its house comfortable and attractive. The relation that these items bear to expenditures for all purposes and for advancement is shown in Tables 14 and 15.

TABLE 14.—*Relation of value of house to average total household expenditures and proportion thereof devoted to advancement among 402 farm families, Livingston County, N. Y., for the year ended September 1, 1921.*

Value of house.	Number of houses.			Average value of house.			Total household expenditures per cost-consumption unit.					
										Devoted to advancement.		
	Owner families.	Tenant families.	All families.	Owner families.	Tenant families.	All families.	Owner families.	Tenant families.	All families.	Owner families.	Tenant families.	All families.
				Dolls.	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*	*P. ct.*	*P. ct.*	*P. ct.*
Less than $1,000	16	11	27	653	668	659	346	412	373	9.8	13.5	11.3
$1,000 to $1,999	90	28	118	1,318	1,336	1,322	464	532	480	15.5	16.2	15.6
$2,000 to $2,999	102	39	141	2,166	2,144	2,160	571	604	580	18.6	21.0	19.3
$3,000 to $3,999	45	15	60	3,044	3,033	3,042	616	646	624	19.0	17.9	18.8
$4,000 to $4,999	22	6	28	4,068	4,000	4,054	765	755	763	18.8	15.9	18.2
$5,000 and over	20	8	28	5,750	5,750	5,750	931	839	905	23.9	17.0	22.0
Total	295	107	402									
Average for all families				2,374	2,259	2,341	572	608	582	17.6	18.0	17.7

TABLE 15.—*Relation of value of house furnishings to average total household expenditures and proportion thereof devoted to advancement among 402 farm families, Livingston County, N. Y., for the year ended September 1, 1921.*

Value of house furnishings.	Number of houses.			Average value of house furnishings.			Total household expenditures per cost-consumption unit.					
										Devoted to advancement.		
	Owner families.	Tenant families.	All families.	Owner families.	Tenant families.	All families.	Owner families.	Tenant families.	All families.	Owner families.	Tenant families.	All families.
				Dolls.	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*	*P. ct.*	*P. ct.*	*P. ct.*
Less than $400	27	9	36	253	294	263	495	484	425	12.1	12.7	12.2
$400 to $599	64	23	87	457	465	459	473	495	479	13.9	14.2	14.0
$600 to $799	59	19	78	626	632	628	516	566	528	17.0	18.2	17.3
$800 to $999	54	20	74	819	805	815	559	630	579	18.5	17.8	18.3
$1,000 to $1,199	51	15	66	1,000	1,000	1,000	663	636	657	20.5	18.4	20.0
$1,200 and over	40	21	61	1,792	1,627	1,736	803	781	811	23.3	24.0	23.5
Total	295	107	402									
Average for all families				813	847	822	572	608	582	17.6	18.0	17.7

According to Table 14 the total value of the house bears about the same relation to the household expenditures as does the size of the farm business. This would be expected when the farm business is measured by the capital invested, for that sum includes the value of the house. About half of the families who were conducting larger farm business operations and were living in the more valuable houses have correspondingly high expenditures. In comparisons made between groups of families with houses of different average value there is no significant variation between the figures for expenditures of all kinds and those for advancement.

The increase in the value of house furnishings as shown in Table 15 is accompanied by a fairly regular increase in expenditures for all purposes and for advancement.

EDUCATION.

In correlating the extent of education received, the same groupings were adopted as in the earlier consideration of this subject (pp. 17 and 18).

TABLE 16.—*Relation of education of operator and home maker to average total household expenditures and proportion thereof devoted to advancement among 402 farm families, Livingston County, N. Y., for the year ended September 1, 1921.*

Extent of education of operator and home maker.	Number of families.			Total household expenditures per cost-consumption units.					
							Devoted to advancement.		
	Owner families.	Tenant families.	All families.	Owner families.	Tenant families.	All families.	Owner families.	Tenant families.	All families.
				Dolls.	*Dolls.*	*Dolls.*	*Per ct.*	*Per ct.*	*Per ct.*
Neither more than eighth grade	135	49	184	490	534	502	14.1	17.8	15.0
One, eighth grade; other, 1 or more years in high school	78	31	109	562	610	576	19.8	19.1	19.6
Both 1 or 2 years in high school	47	13	60	771	661	701	20.6	19.3	20.3
Both 3 or 4 years in high school	22	6	28	664	732	679	20.3	22.3	20.8
One, 3 or 4 years in high school; other, 1 or more years in college	6	5	11	724	945	825	22.6	19.5	21.2
Both 1 or more years in college	7	3	10	888	754	848	28.1	23.3	26.6

Judging by the figures in Table 16 the amount spent for all purposes and the proportion devoted to advancement both tend to increase with the extent of education received by the heads of a family. In order to test this point further, records from 128 farms ranging from 100 to 149 acres in size were selected and used in correlating the extent of education received by operators and home makers, not only with the total expenditures per cost-consumption unit and the proportion devoted to advancement but also with the value of the house, the value of house furnishings, and the size of the farm business as measured by acres operated, capital invested, and work units employed.

TABLE 17.—*Relation of education of operator and homemaker to various factors of home life, for the year ended September 1, 1921, and farm business in 128 families on farms of 100 to 149 acres, Livingston County, N. Y., for the year ended March 1, 1919.*

Extent of education received by operator and home maker.	Number of families.	Average total household expenditures per cost-consumption unit.		Average value of house.	Average value of house furnishings.	Size of farm business.		
		Amount.	Devoted to advancement.			Acres operated.	Capital invested.	Work units employed.
		Dollars.	*Per cent.*	*Dollars.*	*Dollars.*	*Number.*	*Dollars.*	*Number.*
Neither more than eighth grade	58	512	16.1	2,098	480	122	14,498	381
One, eighth grade; other, 1 or more years in high school	37	525	18.7	2,219	657	124	15,340	359
Both 1 or 2 years in high school	19	594	18.1	2,324	758	124	16,277	380
Both 3 or 4 years in high school	8	584	20.6	2,582	863	117	16,183	357
One, 3 or 4 years in high school; other, 1 or more years in college	4	776	25.5	3,750	975	127	23,338	654
Both 1 or more years in college	2	775	26.8	2,750	1,250	117	17,501	393

The figures in Table 17 confirm the impression that among the farm families studied the extent of education received by the heads of families bears a direct relation to the standard of living, by whatever method the latter is measured. Those with more education are spending more money and a larger proportion of it for the less immediate needs, and they are living in more valuable and better-furnished houses. They are also using a little more capital and probably employing a little more labor in their farm business, although they are not always operating a larger number of acres.

The relation of the education received by sons and daughters 23 years of age and older to various factors of home life and farm business is similarly shown in Tables 18 and 19.

TABLE 18.—*Relation of education of children to average total household expenditures and proportion thereof devoted to advancement in 92 families having children 23 years of age or over among 402 farm families, Livingston County, N. Y., for the year ended September 1, 1921.*

Extent of education of children.	Families with at least one child in grade designated.			Total household expenditures per cost-consumption unit.					
							Devoted to advancement.		
	Owner families.	Tenant families.	All families.	Owner families.	Tenant families.	All families.	Owner families.	Tenant families.	All families.
	No.	*No.*	*No.*	*Dolls.*	*Dolls.*	*Dolls.*	*Per ct.*	*Per ct.*	*Per ct.*
Less than eighth grade	13	3	16	441	584	468	11.7	15.5	12.4
Eighth grade to less than fourth year high school	21	4	25	507	610	523	15.8	18.5	16.2
High school graduate	20	4	24	565	575	567	20.3	15.9	19.5
1 or 2 years in college	13	3	16	630	641	632	21.9	17.4	21.1
3 or 4 years in college	8	3	11	924	742	874	28.2	42.8	32.2

TABLE 19.—*Relation of education received by sons or daughters 23 years of age or older to various factors of home life for the year ended September 1, 1921, and farm business, in 92 farm families, Livingston County, N. Y., for the year ended March 1, 1919.*

Extent of education.	Number of families with at least one son or daughter in grade designated.	Average total household expenditures per cost-consumption unit.		Average value of house.	Average value of house furnishings.	Size of farm business.		
		Amount.	Devoted to advancement.			Acres operated.	Capital invested.	Work units employed.
		Dolls.	*Per ct.*	*Dolls.*	*Dolls.*	*No.*	*Dolls.*	*No.*
Less than eighth grade	16	468	12.4	2,056	781	155	19,045	487
Eighth grade to less than fourth year high school	25	523	16.2	2,168	724	153	22,088	480
High school graduate	24	567	19.5	2,567	1,008	169	20,048	460
1 or 2 years in college	16	632	21.1	2,856	911	157	22,022	521
3 or 4 years in college	11	874	32.2	2,800	1,163	235	30,295	594

In order to include more families than the 92 with children old enough to have finished college, a similar set of correlations was made (Table 20) for the 165 families with children 18 years of age or over, that is, old enough to have finished high school.

TABLE 20.—*Relation of education received by children 18 years of age or older to various factors of home life for the year ended September 1, 1921, and farm business, in 165 farm families, Livingston County, N. Y., for the year ended March 1, 1919.*

Extent of education.	Number of families with at least one child in grade designated.	Average total household expenditures per cost-consumption unit.		Average value of house.	Average value of house furnishings.	Size of farm business.		
		Amount.	Devoted to advancement.			Acres operated.	Capital invested.	Work units employed.
		Dolls.	*P.ct.*	*Dolls.*	*Dolls.*	*No.*	*Dolls.*	*No.*
Less than eighth grade	23	435	11.0	1,865	692	131	16,308	425
Eighth grade to less than fourth year high school	53	520	15.7	2,023	719	139	16,149	418
High school graduate	50	547	19.2	2,628	896	151	18,050	452
1 or 2 years in college	28	624	22.0	2,811	981	128	21,281	532
3 or 4 years in college	11	874	32.2	2,800	1,163	235	30,295	594

CHURCH CONTRIBUTIONS AND ATTENDANCE.

The effect on the standard of living of attending and supporting the church is a point frequently discussed by social workers. To bring the findings of the present study to bear upon this point, the families were grouped according to the amount contributed to the support of the church and the attendance of adults at church and Sunday school, and the average expenditures per cost-consumption units were worked out for these groups (Tables 21 and 22).

TABLE 21.—*Relation of contribution to church organizations to average total household expenditures and to proportion thereof devoted to advancement among 402 farm families, Livingston County, N. Y., for the year ended September 1, 1921.*

Amount contributed to church organizations.	Number of families.			Average contribution.			Total household expenditures per cost-consumption unit.					
										Devoted to advancement.		
	Owner families.	Tenant families.	All families.	Owner families.	Tenant families.	All families.	Owner families.	Tenant families.	All families.	Owner families.	Tenant families.	All families.
				Dolls.	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*	*Perct.*	*Perct.*	*Perct.*
Less than $10	49	30	79	3	2	3	462	555	498	11.8	13.8	12.5
$10 to $29	74	40	114	19	18	19	502	615	542	15.7	18.3	16.6
$30 to $49	50	10	60	36	33	35	573	575	573	17.8	19.7	18.1
$50 to $69	50	16	66	54	52	53	600	625	606	19.3	20.2	19.5
$70 to $99	32	6	38	76	75	76	679	750	690	21.8	23.7	22.1
$100 or over	40	5	45	120	109	119	712	705	712	22.9	23.3	23.0
Total	295	107	402									
Average for all families				45	27	40	572	608	582	17.6	18.0	17.7

TABLE 22.—*Relation of church and Sunday school attendance by homemakers and operators to average total household expenditures and to proportion thereof devoted to advancement among 402 farm families, Livingston County, N. Y., for the year ended September 1, 1921.*

Church attendance.	Number of families.			Average attendance during year.			Total household expenditures per cost-consumption unit.					
										Devoted to advancement.		
	Owner families.	Tenant families.	All families.	Owner families.	Tenant families.	All families.	Owner families.	Tenant families.	All families.	Owner families.	Tenant families.	All families.
							Dolls.	*Dolls.*	*Dolls.*	*P. ct.*	*P. ct.*	*P. ct.*
None	39	21	60	.....	.....	.....	489	573	519	13.1	12.5	12.9
1 to 10 times	29	18	47	5	4	4	510	624	554	12.9	20.7	15.9
11 to 20 times	28	18	46	15	14	14	578	569	575	19.3	15.6	17.9
21 to 30 times	42	13	55	27	26	27	590	638	602	19.3	20.4	19.6
31 to 50 times	53	10	63	44	41	44	592	690	608	20.1	23.4	20.6
Over 50 times	104	27	131	52	52	52	601	605	602	18.2	18.8	18.4
Total	295	107	402	.....	.....	.....	.....	.....	.....	.....	.....	.....
Average	.....	.....	.....	32	23	30	572	608	582	17.6	18.0	17.7

The figures in Tables 21 and 22 do not indicate any significant relation between contributions to church organizations or church attendance and the standard of living as measured either by total expenditures or by expenditures for advancement. As would be expected, the amount of the contributions runs more nearly parallel to the figures for advancement, of which it forms a part. Church attendance also seems to bear a more regular relation to expenditures for advancement than to those for all purposes.

SUMMARY.

The study reported in this bulletin is the first of a series to be made in different sections of the United States, and a primary purpose was to develop a method for obtaining statistical data indicative not merely of the cost but also of the quality of family living.

An area in Livingston County, N. Y., was chosen because it is considered typical of moderately successful general farming and because an earlier farm-management study gave the business conditions of the farms.

Data gathered from 402 farm families show the cost or value of the principal goods consumed during the 12 months ending September 1, 1921, the kinds and quantities of food materials and clothing used, the value of house and house furnishings, the prevalence of certain facilities affecting the comfort and convenience of the house, the education of the members, and certain other points commonly considered indicative of the standard of living.

Goods and expenditures were classified under the main headings of food, clothing, housing, furnishings and equipment, operation, maintenance of health, advancement (including education, recreation, and social contact), personal, and savings.

Materials furnished by the farm, gifts of clothing, and unpaid labor were valued at prices they would have received elsewhere and included among expenditures.

Expenditures for all purposes averaged $2,012. Of this, about one-third was provided without direct purchase. The farm furnished food materials worth on the average $399, or about 50 per cent of all food, fuel worth $59, or about 41 per cent of all fuel, and rent estimated at $234. Unpaid labor had an average value of $33 per family, and gifts of clothing $4.

Expenditures for food represented 39.5 per cent of those for all purposes.

Clothing expenditures came to 13.8 per cent of the total. The values were higher for males and females between about 16 and 24 years of age than for older men and women.

The average value of the house was estimated at $2,340, and rent represented 11.6 per cent of all expenditures. In many houses not all the rooms were in use, but on the average there were 1.9 rooms of all kinds and 1 bedroom actually used per person.

Water was piped into 19.8 per cent of the houses, and gas or electric light was found in 24.6 per cent, figures notably higher than the average for the United States according to the Census for 1920.

The average value of house furnishings was estimated at $822.

Fuel represents 7.1 per cent of all expenditures, and other operating expenses 6.2 per cent.

The remaining items, which some workers frequently consider together, come to 21.8 per cent of the total expenditures, or if operating expenses other than fuel are included, 28 per cent. As here subdivided, 4.1 per cent went to maintenance of health, 15.9 per cent to advancement, 1.2 per cent to personal, and 0.6 per cent to unclassified items.

Formal education entailed expenditures equal to 1.8 per cent of those for all purposes. The extent of formal education received by operators and homemakers is roughly indicated as follows: In 45.8 per cent of the families neither had remained in school beyond the eighth grade, in 21.9 per cent both had been through one or more years of high school, and in 2.5 per cent both had been through one or more years of college. In 30.3 per cent of the 165 families having children 18 years old or older, at least 1 child had finished the high school; in 29.4 per cent of the 92 families having children 23 years or older, at least 1 child had been to college for 1 year or more.

Contributions to church organizations made up 2 per cent of all expenditures. The average attendance of adults at church, Sunday school, and other religious services was 30 times a year.

The largest expenditure under advancement is attributed to the cost of operating and repairing the automobile for family and household use, which was 3.2 per cent of all expenditures. Automobiles were owned in 75.6 per cent of the 402 families, and the corresponding figure for New York State in the United States Census for 1920 was 35.2 per cent. The average expense per car in the present study was found to be $86 for the year.

Savings in the form of life insurance represented 2.1 per cent of all expenditures.

When the results from the present study are compared with other available data, the assumption is justified that the area studied represents conditions above the average, whether this is measured by the

total value of the goods consumed, by facilities and comforts provided, or by the importance placed on the less material and essential goods.

Since diversity in number, age, sex, and occupation of members makes the family an unsatisfactory basis of comparison in studies of family consumption, an attempt was made to devise scales by which families of various make-up can be reduced to common units of comparison. In the case of food, the scale of dietary factors published by the United States Department of Agriculture was taken as a basis; with each of the other classes of goods the records of the Livingston County families were examined to find the ratio between expenditures for individuals of different age, sex, and occupation. The expenditure per adult male was taken as unity, and the weightings allowed for other individuals were stated in decimals.

The sum of the ratios or factors representing all members of the family or household was termed the household-size index. By dividing the expenditure for any item by this index, a figure was obtained which was termed the expenditure per cost-consumption unit for that item. The sum of the expenditures per cost-consumption unit for the various items was used as the basis of comparison between families or groups of families. These scales are far from accurate; but it is hoped that, by checking up the weightings or ratios as more studies accumulate and also by employing statistical methods for eliminating errors, they can gradually be perfected as a means of comparing the cost of different goods among various families.

Expenditures per cost-consumption unit were calculated for the present study, and used in correlations which may be summarized as follows:

The expenditures per cost-consumption unit and the proportion devoted to advancement both increase fairly regularly with the size of the farm business as measured in terms of acres operated, capital invested, and labor employed, and with the value of the house and its furnishings. They also increase with the extent of formal education received by operators and homemakers and even more markedly with the education received by children. They increase less markedly with contributions to church organizations and church attendance. In other words, this method of measuring family expenditures suggests that, while the standard of living rises with the size of the farm business and the value of the house and furnishings, the education enjoyed by the members of the family has a more marked effect, especially the education of the children.

ORGANIZATION OF THE UNITED STATES DEPARTMENT OF AGRICULTURE.

December 11, 1923.

Secretary of Agriculture	HENRY C. WALLACE.
Assistant Secretary	HOWARD M. GORE.
Director of Scientific Work	E. D. BALL.
Director of Regulatory Work	WALTER G. CAMPBELL.
Director of Extension Work	C. W. WARBURTON.
Weather Bureau	CHARLES F. MARVIN, *Chief.*
Bureau of Agricultural Economics	HENRY C. TAYLOR, *Chief.*
Bureau of Animal Industry	JOHN R. MOHLER, *Chief.*
Bureau of Plant Industry	WILLIAM A. TAYLOR, *Chief.*
Forest Service	W. B. GREELEY, *Chief.*
Bureau of Chemistry	C. A. BROWNE, *Chief.*
Bureau of Soils	MILTON WHITNEY, *Chief.*
Bureau of Entomology	L. O. HOWARD, *Chief.*
Bureau of Biological Survey	E. W. NELSON, *Chief.*
Bureau of Public Roads	THOMAS H. MACDONALD, *Chief.*
Bureau of Home Economics	LOUISE STANLEY, *Chief.*
Fixed Nitrogen Research Laboratory	F. G. COTTRELL, *Director.*
Division of Accounts and Disbursements	A. ZAPPONE, *Chief.*
Library	CLARIBEL R. BARNETT, *Librarian.*
Federal Horticultural Board	C. L. MARLATT, *Chairman.*
Insecticide and Fungicide Board	J. K. HAYWOOD, *Chairman.*
Packers and Stockyards Administration *Grain Future Trading Act Administration*	CHESTER MORRILL, *Assistant to the Secretary.*
Office of the Solicitor	R. W. WILLIAMS, *Solicitor.*

This bulletin is a contribution from

Bureau of Agricultural Economics	HENRY C. TAYLOR, *Chief.*
Division of Farm Population and Rural Life	CHARLES J. GALPIN, *In Charge.*
Bureau of Home Economics	LOUISE STANLEY, *Chief.*

ADDITIONAL COPIES
OF THIS PUBLICATION MAY BE PROCURED FROM
THE SUPERINTENDENT OF DOCUMENTS
GOVERNMENT PRINTING OFFICE
WASHINGTON, D. C.
AT
5 CENTS PER COPY

PURCHASER AGREES NOT TO RESELL OR DISTRIBUTE THIS COPY FOR PROFIT.—PUB. RES. 57, APPROVED MAY 11, 1922